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EXAMINER

SALL, EL HADJI MALICK

ART UNIT PAPER NUMBER

2157

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,493

Applicant(s)

PERDON ET AL.

Examiner

El Hadji M. Sall

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. **DETAILED ACTION**

This action is responsive to the correspondence filed on April 6, 2005. Claims 1-58 are pending. Claims 1-58 represent predicting the activities of an individual or group using minimal information.

2. ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-58 are rejected under 35 U.S.C. 102(b) as being unpatentable over Herz U.S. 6,029,195

Herz teaches the invention as claimed including system for customized electronic identification of desirable objects.

As to claim 1, Herz teaches a method of predicting the behavior of a current user of an interactive service, comprising the steps of:

identifying each activity in which the current user participates while engaged with the interactive service, and conditions surrounding each such activity (column 1, lines 17-21, Herz discloses this invention relates to

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customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in electronic media based; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; see abstract);

accessing a first collection of data that reflects (i) cumulative activities in which other users have participated, (ii) conditions surrounding such other users' cumulative activities, and (iii) patterns of behavior exhibited by such other users through their participation in such cumulative activities (column 3, lines 39, Herz discloses cluster-based approach to browsing large article collection; column 6, lines 22-25, Herz discloses the target objects may be published articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital) data);

comparing (i) the current user's identified activities and surrounding conditions and (ii) the other users' cumulative activities and surrounding conditions, to identify similarities therebetween (column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests); and

attributing to the current user a pattern of future behavior based on such similarities and on the other users' patterns of behavior (column 48, lines 49-57, Herz discloses any of the well-known pre-fetching methods that collect and utilize aggregate statistics on past user behavior, in order to predict future user behavior, may then be implemented in so as to collect and utilize a separate set of statistics for each cluster of users. In this way, the system generalizes its access pattern statistics from each user to similar users, without generalizing among users who have substantially different interests).

As to claim 2, Herz teaches the method of claim 1, wherein the step of identifying the conditions surrounding each of the current user's activities includes determining the amount of time that the current user participates in each activity (column 4, lines 39-43, Herz discloses which system enables a user to access target objects of relevance and interest to the user without requiring the user to expend an excessive amount of time and energy)

As to claim 3, Herz teaches the method of claim 2, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses the user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics).

As to claim 4, Herz teaches the method of claim 3, wherein the first collection of data is based on the other users' activities while engaged with the

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interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 5, Herz teaches the method of claim 1, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 6, Herz teaches method of claim 1, wherein the other users are unrelated individual persons (column 10, lines 17-18, Herz discloses the user is an employee and the target objects are classifieds for potential employers; column 30, lines 47-49, Herz discloses a group of users who have been previously interacting on-line with another user).

As to claim 7, Herz teaches the method of claim 1, wherein the other users are members of a group and the current user is identifiable as a potential

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member of that group (column 24, lines 48-50, Herz discloses the system does not need any information about target objects or users, except for their history of interaction with each other; column 48, lines 45-49, Herz discloses Successful pre-fetching depends on the ability of the system to predict the next action or actions of the user. In the context of the system for customized electronic identification of desirable objects, it is possible to cluster users into groups according to the similarity of their user profiles).

As to claim 8, Herz teaches the method of claim 1, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 9, Herz teaches the method of claim 1, further comprising the step of:

periodically updating the first collection of data to reflect the other users' ongoing participation in additional activities (column 5, lines 28-30, Herz

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discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests).

As to claim 10, Herz teaches the method of claim 9, wherein the step of periodically updating occurs in real time, during the current user's engagement with the interactive service (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 7, lines 15-17, Herz discloses each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests).

As to claim 11, Herz teaches the method of claim 1, further comprising the step of:

accessing a second collection of data that reflects (i) a plurality of activities that are available via the interactive service and (ii) information about each activity within such plurality of available activities that distinguishes it from the other activities within such plurality (column 34, lines 33-45, Herz discloses an important characteristic of this system for customized electronic identification of desirable objects is its responsiveness, since the intended use of the system is in an interactive mode. The system utility grows with the number of the users and this increases the number of possible consumer/product relationships between users and target objects. A system that serves a large group of users must maintain interactive performance and the disclosed method for profiling and clustering target objects and users can in turn be used for optimizing the distribution of data among the members of a virtual community and through a data communications network, based on users' target profile interest summaries); and

wherein the step of attributing includes selecting one or more activities, from the plurality of available activities, in which the current user is most likely to participate during the engagement with the interactive service (abstract, Herz

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discloses... the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 12, Herz teaches the method of claim 1, wherein the interactive service is accessed through the Internet, the current user's activities and the other users' activities comprise visits to Internet web sites, and the first collection of data includes data reflecting (i) the identity of each other user, (ii) the types of Internet web sites that each other user has visited, (iii) the content of each type of Internet web site visited by each other user, and (iv) the amount of time spent at each type of Internet web site by each other user (column 77, lines 19-23, Herz discloses When shoppers look for goods to purchase over the Internet or other electronic media, it is typically necessary to display thousands or tens of thousands of products in a fashion that helps consumers find the items they are looking for; column 7, lines 30-35, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites; abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, Searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be

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relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 13, Herz teaches the method of claim 1, wherein the interactive service is accessed through a television system capable of capturing information on the user's television-watching-related activities (column 90, lines 13-22, Herz discloses users within such a common interest group may be further subdivided into sub-communities according to more specific common interests which they share (such as sub-communities) of real time correspondents simultaneously watching a popular program on television or according to content profile of the real time dialogues which the users are engaged in e.g., as they jointly navigate the World Wide Web, view a video program or television debate or engage in a video game)

As to claim 14, Herz teaches the method of claim 12, further comprising the step of:

periodically updating the first collection of data to reflect the other users' visits to additional Internet web sites (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 67, lines 33-35, Herz discloses rather than identifying new news articles of interest, the technology may identify new or updated World Wide Web pages of interest).

As to claim 15, Herz teaches the method of claim 14, wherein the step of periodically updating occurs in real time, during the current user's engagement with the service (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 7, lines 15-17, Herz discloses each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests).

As to claim 16, Herz teaches the method of claim 12, further comprising the step of:

accessing a second collection of data that reflects (i) a plurality of types of Internet web sites that are available for the current user to visit and (ii) information about each type of web site within such plurality that distinguishes it from the

other types of web sites within such plurality (column 7, lines 30-47, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites...); and

wherein the step of attributing includes selecting one or more types of web sites, from the plurality of types of web sites, which the current user is most likely to visit during the engagement with the service (column 87, lines 46-53, Herz discloses the user profile associated with each pseudonym indicates the user's interests, for example through an associative attribute that indicates the documents or Web sites a user likes, then pseudonyms can be clustered based on the similarity of their associated user profiles, and each of the resulting clusters of pseudonyms determines a pre-community comprising the pseudonyms in the cluster).

As to claim 17, Herz teaches a method of predicting the behavior of a user of an interactive service, during a particular period of engagement with the interactive service, comprising the steps of:

identifying activities in which the user participates during the period of engagement, and conditions surrounding each such activity (column 1, lines 17-21, Herz discloses this invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment,

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and in particular to a system that automatically constructs both a "target profile" for each target object in electronic media based; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; see abstract);

identifying the activities of multiple other contemporaneous users of the interactive service during the same period of engagement, and conditions surrounding such activities (column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics);

maintaining a first collection of data that includes data reflecting both the user's and the other contemporaneous users' cumulative activities identified during the period of engagement, and conditions surrounding such cumulative activities (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster);

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determining, from such first collection of data, patterns of behavior exhibited by such user's and the other contemporaneous users' participation in activities during the period of engagement (column 7, lines 19-51, Herz discloses...users who exhibit a strong interest in certain novels may also show an interest in certain movies, presumably of a similar nature. A system in which some target objects are novels and other target objects are movies can discover such a correlation and exploit it in order to group particular novels with particular movies, e.g., for clustering purposes, or to recommend the movies to a user who has demonstrated interest in the novels. Similarly, if users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites...);

incorporating, into the first collection of data, data reflecting such determined patterns of behavior (column 27, lines 1-6, Herz discloses it should be trained to take the attributes of a target object as input, and produce as output a unique pattern that can be used to identify the appropriate low-level cluster. For maximum accuracy, low-level clusters that are similar to each other (close together in the cluster tree) should be given similar identifying patterns);

comparing (i) the user's present activities and surrounding conditions and (ii) the cumulative activities and surrounding conditions as reflected in such first collection of data, to identify similarities therebetween (column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile

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interest summary is automatically updated on a continuing basis to reflect the user's changing interests);

attributing to the user a pattern of future behavior based on such similarities and on the previously determined patterns of behavior (column 48, lines 49-57, Herz discloses any of the well-known pre-fetching methods that collect and utilize aggregate statistics on past user behavior, in order to predict future user behavior, may then be implemented in so as to collect and utilize a separate set of statistics for each cluster of users. In this way, the system generalizes its access pattern statistics from each user to similar users, without generalizing among users who have substantially different interests).

As to claim 18, Herz teaches the method of claim 17, further comprising the step of:

continually updating the first collection of data, to reflect (i) the user's and the other contemporaneous users' participation in additional activities and (ii) the determination of new patterns of behavior based on such participation in additional activities (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests); and

wherein the steps of comparing and attributing are performed, at any given point in time, in conjunction with the updated first collection of data (column 17-18, lines 60-67 to lines 1-8, Herz discloses... Participants may submit or withdraw these profiles at any time. The system for customized electronic identification of desirable objects computes the similarities between seller-submitted profiles and buyer-submitted profiles, and when two profiles match closely...)

As to claim 19, Herz discloses the method of claim 18, further comprising the step of:

accessing a second collection of data that reflects (i) a plurality of activities that are available via the interactive service and (ii) information about each activity within such plurality of available activities that distinguishes it from the other activities within such plurality (column 34, lines 33-45, Herz discloses an important characteristic of this system for customized electronic identification of desirable objects is its responsiveness, since the intended use of the system is in an interactive mode. The system utility grows with the number of the users and this increases the number of possible consumer/product relationships between users and target objects. A system that serves a large group of users must maintain interactive performance and the disclosed method for profiling and clustering target objects and users can in turn be used for optimizing the distribution of data among the members of a virtual community and through a data communications network, based on users' target profile interest summaries); and

wherein the step of attributing includes selecting one or more activities, from the plurality of available activities, in which the current user is most likely to participate during the period of engagement with the interactive service (abstract, Herz discloses... the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 20, Herz teaches the method of claim 18, wherein the interactive service is accessed through the Internet, the user's and other contemporaneous users' activities comprise visits to Internet web sites, and the first collection of data includes data reflecting (i) the types of Internet web sites that the user and the other contemporaneous users have visited, (ii) the content of each type of Internet web site visited, and (iii) the amount of time spent at each type of Internet web site visited (column 77, lines 19-23, Herz discloses When shoppers look for goods to purchase over the Internet or other electronic media, it is typically necessary to display thousands or tens of thousands of

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products in a fashion that helps consumers find the items they are looking for; column 7, lines 30-35, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites; abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 21, Herz teaches the method of claim 20, further comprising the step of:

accessing a second collection of data that reflects (i) a plurality of types of Internet web sites that are available for the user to visit and (ii) information about each type of web site within such plurality that distinguishes it from the other types of web sites within such plurality (column 7, lines 30-47, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites...); and

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wherein the step of attributing includes selecting one or more types of web sites, from the plurality of types of web sites, which the current user is most likely to visit during the engagement with the service (column 87, lines 46-53, Herz discloses the user profile associated with each pseudonym indicates the user's interests, for example through an associative attribute that indicates the documents or Web sites a user likes, then pseudonyms can be clustered based on the similarity of their associated user profiles, and each of the resulting clusters of pseudonyms determines a pre-community comprising the pseudonyms in the cluster).

As to claim 22, Herz teaches a method of delivering targeted informational content to a current user of an interactive service, comprising the steps of:

identifying each activity in which the current user participates while engaged with the interactive service, and conditions surrounding each such activity (column 1, lines 17-21, Herz discloses this invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in electronic media based; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; see abstract);

accessing a first collection of data that reflects (i) cumulative activities in which other users have participated, (ii) conditions surrounding such other users' cumulative activities, and (iii) preferences exhibited by such other users through their participation in such cumulative activities (column 3, lines 39, Herz discloses cluster-based approach to browsing large article collection; column 6,

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lines 22-25, Herz discloses the target objects may be published articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital) data);

comparing (i) the current user's identified activities and surrounding conditions and (ii) the other users' cumulative activities and surrounding conditions, to identify similarities therebetween (column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests.);

attributing to the current user a preference profile based on such similarities and on the other users' preferences (column 48, lines 49-57, Herz discloses any of the well-known pre-fetching methods that collect and utilize aggregate statistics on past user behavior, in order to predict future user behavior, may then be implemented in so as to collect and utilize a separate set of statistics for each cluster of users. In this way, the system generalizes its access pattern statistics from each user to similar users, without generalizing among users who have substantially different interests); and

generating an ordered list of informational content to be selectively delivered to the current user based on the preference profile (abstract, Herz discloses...generate a user-customized rank ordered listing of target objects most likely to be of interest to each user so that the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 23, Herz teaches the method of claim 22, wherein the step of identifying the conditions surrounding each of the current user's activities includes determining the amount of time that the current user participates in each activity (column 4, lines 39-43, Herz discloses which system enables a user to access target objects of relevance and interest to the user without requiring the user to expend an excessive amount of time and energy).

As to claim 24, Herz teaches the method of claim 22, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses...access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses the user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics).

As to claim 25, Herz teaches the method of claim 24, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 26, Herz teaches the method of claim 22, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 27, Herz teaches the method of claim 22, wherein the other users are unrelated individual persons (column 10, lines 17-18, Herz discloses the user is an employee and the target objects are classifieds for potential employers; column 30, lines 47-49, Herz discloses a group of users who have been previously interacting on-line with another user).

As to claim 28, Herz teaches the method of claim 22, wherein the other users are members of a group and the current user is identifiable as a potential member of that group (column 24, lines 48-50, Herz discloses the system does not need any information about target objects or users, except for their history of interaction with each other; column 48, lines 45-49, Herz discloses Successful pre-fetching depends on the ability of the system to predict the next action or actions of the user. In the context of the system for customized electronic identification of desirable objects, it is possible to cluster users into groups according to the similarity of their user profiles).

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As to claim 29, Herz teaches the method of claim 22, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses...access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 30, Herz teaches the method of claim 22, further comprising the step of:

periodically updating the first collection of data to reflect the other users' ongoing participation in additional activities (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests).

As to claim 31, Herz teaches the method of claim 30, wherein the step of periodically updating occurs in real time, during the current user's engagement with the interactive service (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 7, lines 15-17, Herz discloses

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each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests).

As to claim 32, Herz teaches the method of claim 22, further comprising the step of:

accessing a second collection of data that reflects (i) a plurality of activities that are available via the interactive service and (ii) information about each activity

within such plurality of available activities that distinguishes it from the other activities within such plurality (column 34, lines 33-45, Herz discloses an important characteristic of this system for customized electronic identification of desirable objects is its responsiveness, since the intended use of the system is in an interactive mode. The system utility grows with the number of the users and this increases the number of possible consumer/product relationships between users and target objects. A system that serves a large group of users must maintain interactive performance and the disclosed method for profiling and clustering target objects and users can in turn be used for optimizing the distribution of data among the members of a virtual community and through a data communications network, based on users' target profile interest summaries); and

wherein the step of attributing a preference profile is based in part on those activities, from the plurality of available activities, in which the current user is most likely to participate during the engagement with the interactive service (abstract, Herz discloses... the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 33, Herz teaches the method of claim 22, wherein the interactive service is accessed through the Internet, the current user's activities

and the other users' activities comprise visits to Internet web sites, and the first collection of

data includes data reflecting (i) the identity of each other user, (ii) the types of Internet web sites that each other user has visited, (iii) the content of each type of Internet web site visited by each other user, and (iv) the amount of time spent at each type of Internet web site by each other user (column 77, lines 19-23, Herz discloses When shoppers look for goods to purchase over the Internet or other electronic media, it is typically necessary to display thousands or tens of thousands of products in a fashion that helps consumers find the items they are looking for; column 7, lines 30-35, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites; abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 34, Herz teaches the method of claim 22, wherein the interactive service is accessed through a television system capable of capturing information on the user's television-watching-related activities (column 90, lines 13-22, Herz discloses users within such a common interest group may be

further subdivided into sub-communities according to more specific common interests which they share (such as sub-communities) of real time correspondents simultaneously watching a popular program on television or according to content profile of the real time dialogues which the users are engaged in e.g., as they jointly navigate the World Wide Web, view a video program or television debate or engage in a video game).

As to claim 35, Herz teaches a computer-readable medium having stored thereon instructions for predicting the behavior of a current user of an interactive service which, when executed by a processor, cause the processor to perform the steps of:

identifying each activity in which the current user participates while engaged with the interactive service, and conditions surrounding each such activity (column 1, lines 17-21, Herz discloses this invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in electronic media based; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; see abstract);

accessing a first collection of data that reflects (i) cumulative activities in which other users have participated, (ii) conditions surrounding such other users' cumulative activities, and (iii) patterns of behavior exhibited by such other users through their participation in such cumulative activities (column 3, lines 39, Herz discloses cluster-based approach to browsing large article collection; column 6, lines 22-25, Herz discloses the target objects may be published

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articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital data);

comparing (i) the current user's identified activities and surrounding conditions and (ii) the other users' cumulative activities and surrounding conditions, to identify similarities therebetween (column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests.); and

attributing to the current user a pattern of future behavior based on such similarities and on the other users' patterns of behavior (column 48, lines 49-57, Herz discloses any of the well-known pre-fetching methods that collect and utilize aggregate statistics on past user behavior, in order to predict future user behavior, may then be implemented in so as to collect and utilize a separate set of statistics for each cluster of users. In this way, the system generalizes its access pattern statistics from each user to similar users, without generalizing among users who have substantially different interests).

As to claim 36, Herz teaches the computer-readable medium of claim 35, wherein the instruction that causes the processor to perform the step of identifying the conditions surrounding each of the current user's activities causes the processor to perform the step of determining the amount of time that the current user participates in each activity (column 4, lines 39-43, Herz discloses which system enables a user to access target objects of relevance

and interest to the user without requiring the user to expend an excessive amount of time and energy)

As to claim 37, Herz teaches the computer-readable medium of claim 36, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses the user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics).

As to claim 38, Herz teaches the computer-readable medium of claim 37, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 39, Herz teaches the computer-readable medium of claim 35, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 40, Herz teaches the computer-readable medium of claim 35, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses...access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 41, Herz teaches the computer-readable medium of claim 1, having stored thereon further instructions which, when executed by the processor, cause the processor to perform the step of: periodically updating the first collection of data to reflect the other users' ongoing participation in additional activities (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests).

As to claim 42, Herz teaches the computer-readable medium of claim 41, wherein the instructions that cause the processor to perform the step of periodically updating cause it to do so in real time, during the current user's engagement with the interactive service (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 7, lines 15-17, Herz discloses each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests).

As to claim 43, Herz teaches the computer-readable medium of claim 35, having stored thereon further instructions which, when executed by the processor, cause the processor to perform the step of:

accessing a second collection of data that reflects (i) a plurality of activities that are available via the interactive service and (ii) information about each activity within such plurality of available activities that distinguishes it from the other activities within such plurality (column 34, lines 33-45, Herz discloses an important characteristic of this system for customized electronic identification of desirable objects is its responsiveness, since the intended use of the system is in an interactive mode. The system utility grows with the number of the users and this increases the number of possible consumer/product relationships between users and target objects. A system that serves a large group of users must maintain interactive performance and the disclosed method for profiling

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and clustering target objects and users can in turn be used for optimizing the distribution of data among the members of a virtual community and through a data communications network, based on users' target profile interest summaries); and

wherein the step of attributing includes selecting one or more activities, from the plurality of available activities, in which the current user is most likely to participate during the engagement with the interactive service (abstract, Herz discloses... the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 44, Herz teaches the computer-readable medium of claim 35, wherein the interactive service is accessed through the Internet, the current user's activities and the other users' activities comprise visits to Internet web sites, and the first collection of data includes data reflecting (i) the identity of each other user, (ii) the types of Internet web sites that each other user has visited, (iii) the content of each type of Internet web site visited by each other user, and (iv) the amount of time spent at each type of Internet web site by each other user (column 77, lines 19-23, Herz discloses When shoppers look for goods to purchase over the Internet or other electronic media, it is typically necessary to display thousands or tens of thousands of products in a fashion that helps consumers find the items they are looking for; column 7, lines 30-35, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites; abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently

performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 45, Herz teaches the computer-readable medium of claim 35, wherein the interactive service is accessed through a television system capable of capturing information on the user's television-watching-related activities (column 90, lines 13-22, Herz discloses users within such a common interest group may be further subdivided into sub-communities according to more specific common interests which they share (such as sub-communities) of real time correspondents simultaneously watching a popular program on television or according to content profile of the real time dialogues which the users are engaged in e.g., as they jointly navigate the World Wide Web, view a video program or television debate or engage in a video game).

As to claim 46, Herz teaches Apparatus for predicting the behavior of a current user of an interactive service, comprising:

means for identifying each activity in which the current user participates while engaged with the interactive service, and conditions surrounding each such activity (column 1, lines 17-21, Herz discloses this invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in electronic media based; column 32, lines 32-39, Herz discloses The user's needs may

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also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; see abstract);

means for accessing a first collection of data that reflects (i) cumulative activities in which other users have participated, (ii) conditions surrounding such other users' cumulative activities, and (iii) patterns of behavior exhibited by such other users through their participation in such cumulative activities (column 3, lines 39, Herz discloses cluster-based approach to browsing large article collection; column 6, lines 22-25, Herz discloses the target objects may be published articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital) data);

means for comparing (i) the current user's identified activities and surrounding conditions and (ii) the other users' cumulative activities and surrounding conditions, to identify similarities therebetween (column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests.); and

means for attributing to the current user a pattern of future behavior based on such similarities and on the other users' patterns of behavior (column 48, lines 49-57, Herz discloses any of the well-known pre-fetching methods that collect and utilize aggregate statistics on past user behavior, in order to predict future

user behavior, may then be implemented in so as to collect and utilize a separate set of statistics for each cluster of users. In this way, the system generalizes its access pattern statistics from each user to similar users, without generalizing among users who have substantially different interests).

As to claim 47, Herz teaches the apparatus of claim 46, wherein the means of identifying the conditions surrounding each of the current user's activities includes means for determining the amount of time that the current user participates in each activity (column 4, lines 39-43, Herz discloses which system enables a user to access target objects of relevance and interest to the user without requiring the user to expend an excessive amount of time and energy)

As to claim 48, Herz teaches the apparatus of claim 47, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses...access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses the user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics).

As to claim 49, Herz teaches the apparatus of claim 48, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at

Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 50, Herz teaches the apparatus of claim 46, wherein the first collection of data is based on the other users' activities while engaged with the interactive service (column 3, lines 35-45, Herz discloses a number of other research groups have looked at the automatic generation and labeling of clusters of articles for the purpose of browsing through the articles. A group at Xerox Parc published a paper titled "Scatter/gather: a cluster-based approach to browsing large article collections" at the 15 Ann. Int'l SIGIR '92, ACM 318-329 (Cutting et al. 1992). This group developed a method they call "scatter/gather" for performing information retrieval searches. In this method, a collection of articles is "scattered" into a small number of clusters, the user then chooses one or more of these clusters based on short summaries of the cluster).

As to claim 51, Herz teaches the apparatus of claim 46, wherein the other users are unrelated individual persons (column 10, lines 17-18, Herz discloses the user is an employee and the target objects are classifieds for potential employers; column 30, lines 47-49, Herz discloses a group of users who have been previously interacting on-line with another user).

As to claim 52, Herz teaches the apparatus of claim 46, wherein the other users are members of a group and the current user is identifiable as a potential member of that group (column 24, lines 48-50, Herz discloses the system does not need any information about target objects or users, except for their history of interaction with each other; column 48, lines 45-49, Herz discloses Successful

pre-fetching depends on the ability of the system to predict the next action or actions of the user. In the context of the system for customized electronic identification of desirable objects, it is possible to cluster users into groups according to the similarity of their user profiles).

As to claim 53, Herz teaches the apparatus of claim 46, wherein the first collection of data includes data reflecting (i) the identity of each other user, (ii) each activity in which each other user has participated and (iii) the amount of time that each other user participated in each activity (abstract, Herz discloses...access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 54, Herz teaches the apparatus of claim 46, further comprising: means for periodically updating the first collection of data to reflect the other users' ongoing participation in additional activities (column 5, lines 28-30, Herz discloses users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests).

As to claim 55, Herz teaches the apparatus of claim 54, wherein the means for periodically updating operates in real time, during the current user's engagement with the interactive service (column 5, lines 28-30, Herz discloses

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users' target profile interest summaries are automatically updated on a continuing basis to reflect each user's changing interests; column 7, lines 15-17, Herz discloses each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests).

As to claim 56, Herz teaches the apparatus of claim 46, further comprising:

means for accessing a second collection of data that reflects (i) a plurality of activities that are available via the interactive service and (ii) information about each activity within such plurality of available activities that distinguishes it from the other activities within such plurality (column 34, lines 33-45, Herz discloses an important characteristic of this system for customized electronic identification of desirable objects is its responsiveness, since the intended use of the system is in an interactive mode. The system utility grows with the number of the users and this increases the number of possible consumer/product relationships between users and target objects. A system that serves a large group of users must maintain interactive performance and the disclosed method for profiling and clustering target objects and users can in turn be used for optimizing the distribution of data among the members of a virtual community and through a data communications network, based on users' target profile interest summaries); and

wherein the means for attributing includes means for selecting one or more activities, from the plurality of available activities, in which the current user is most likely to participate during the engagement with the interactive service (abstract, Herz discloses... the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media...).

As to claim 57, Herz teaches the apparatus of claim 46, wherein the interactive service is accessed through the Internet, the current user's activities and the other users' activities comprise visits to Internet web sites, and the first collection of data includes data reflecting (i) the identity of each other user, (ii) the types of Internet web sites that each other user has visited, (iii) the content of each type of Internet web site visited by each other user, and (iv) the amount of time spent at each type of Internet web site by each other user (column 77, lines 19-23, Herz discloses When shoppers look for goods to purchase over the Internet or other electronic media, it is typically necessary to display thousands or tens of thousands of products in a fashion that helps consumers find the items they are looking for; column 7, lines 30-35, Herz discloses users who exhibit an interest in certain World Wide Web sites also exhibit an interest in certain products, the system can match the products with the sites and thereby recommend to the marketers of those products that they place advertisements at those sites, e.g., in the form of hypertext links to their own sites; abstract, Herz discloses... access this summary and to identify or contact the user; column 32, lines 32-39, Herz discloses The user's needs may also vary based upon the context of what actions the user has recently performed e.g., searching through particular topics of the World Wide Web, searching through e-mail, conversing with particular users about a particular topic of engaging in these activities at certain times or in conjunction with any of the above which may indicate the context of the user's mode of activities such as work, leisure or academics; column 33-34, lines 65-67 to 1-3, Herz discloses a user therefore does not have simple access to information but must expend a significant amount of time and energy to excerpt a segment of the information that may be relevant to the user from the plethora of information that is generated and populated on this system).

As to claim 58, Herz teaches the apparatus of claim 46, wherein the interactive service is accessed through a television system capable of capturing

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information on the user's television-watching-related activities (column 90, lines 13-22, Herz discloses users within such a common interest group may be further subdivided into sub-communities according to more specific common interests which they share (such as sub-communities) of real time correspondents simultaneously watching a popular program on television or according to content profile of the real time dialogues which the users are engaged in e.g., as they jointly navigate the World Wide Web, view a video program or television debate or engage in a video game).

4. *Response to Arguments*

Applicant's arguments filed 4/6/05 have been fully considered but they are not persuasive.

Applicant argues that Herz is not comparing the same thing as the claimed invention.

In regards to the above point, examiner respectfully disagrees.

column 7, lines 9-18, Herz discloses The system further includes a profile processing module which estimates each user's interest in various target objects by reference to the users' target profile interest summaries, for example by comparing the target profiles of these target objects against the search profiles in users' search profile sets, and generates for each user a customized rank-ordered listing of target objects most likely to be of interest to that user. Each user's target profile interest summary is automatically updated on a continuing basis to reflect the user's changing interests (i.e. by comparing the target profiles against the search profiles, it is inherent that in profile, there are

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"activities and surrounding conditions", and while comparing the target profiles against the search profiles, Herz is "comparing the user's activities and surrounding condition and other users' cumulative activities and surrounding conditions to identify similarities therebetween) .

5. Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to El Hadji M Sall whose telephone number is 571-272-4010. The examiner can normally be reached on 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4010. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

El Hadji Sall
Patent Examiner
Art Unit: 2157



ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100